

AMENDMENTS TO THE CLAIMS:

Claim 1. (Currently amended) A device for setting a hysteresis characteristic with respect to an input signal, said device comprising:

a voltage dividing circuit for dividing a voltage of said input signal into a first voltage and a second voltage which is lower than said first voltage; and

a computer including

a first port to which said first voltage is given; and

a second port, that is separate from said first port, to which said second voltage is given, said computer performing a predetermined software process to set a hysteresis characteristic;

wherein said computer performs a software process of:

when said voltages given to said first and second ports are equal to or higher than a predetermined threshold, determining said input signal to have a high level;

when said voltage given to said first port is equal to or higher than the threshold and said voltage given to said second port is lower than the threshold, making a same determination as an immediately preceding determination; and

when said voltages given to said first and second ports are lower than the predetermined threshold, determining said input signal to have a low level.

Claim 2. (Original) The device for setting a hysteresis characteristic according to Claim 1,

wherein said voltage dividing circuit includes first and second resistors which are connected to each other in series,

wherein a first end of said first resistor is connected to said first port, a second end of said first resistor is connected to a first end of said second resistor and said second port, said input signal is input to said first end of said first resistor, and

wherein a second end of said second resistor is grounded.

Claim 3. (Previously presented) A device for setting a hysteresis characteristic with respect to an input signal, said device comprising:

a pre-processing section for reducing a noise of said input signal;

a voltage dividing section for dividing a voltage of said pre-processed input signal into a first signal and a second signal;

a characteristic setting section including

a first comparator for comparing said first signal with a predetermined threshold, and

a second comparator for comparing said second signal with said predetermined threshold, for setting a hysteresis characteristic based on results of said first comparator and second comparator;

wherein said voltage dividing section divides said pre-processed input signal so that a voltage of said second signal is lower than a voltage of said first signal, and

wherein said setting section sets a hysteresis characteristic in such manner that:

when both of said first signal and said second signal are equal to or higher than said predetermined threshold, said setting section outputs a high level signal;

when both of said first signal and said second signal are lower than said predetermined threshold, said setting section outputs a low level signal; and

when said first signal is equal to or higher than said predetermined threshold and said second signal is lower than said predetermined threshold, said setting section outputs a same level signal as an immediately preceding output signal.

Claim 4. (Original) The hysteresis characteristic setting device according to Claim 3, wherein said voltage dividing section includes at least two resistors connected in series with each other.

Claim 5. (Original) The hysteresis characteristic setting device according to Claim 3, wherein said voltage dividing section includes three resistors connected in series.

Claim 6. (Previously presented) The hysteresis characteristic setting device according to Claim 3, wherein said pre-processing section comprises a low-pass filter.

Claim 7. (Previously presented) A method for setting hysteresis characteristic in respect to an input signal, said method comprising:

pre-processing for reducing a noise of said input signal;
voltage dividing for dividing said pre-processed input signal into a first signal and a second signal, which is lower than said first signal;
first comparing for comparing said first signal with a predetermined threshold;
second comparing for comparing said second signal with said predetermined threshold; and

characteristic setting for setting a hysteresis characteristic based on said first comparing and second comparing;

wherein said characteristic setting comprises:

said hysteresis characteristic of said input signal is defined as a high level of output signal in a case that said first signal is equal to or higher than said predetermined signal in a result of said first comparing and said second signal is equal to or higher than said predetermined threshold in a result of said second comparing,

said hysteresis characteristic of said input signal is defined as a low level of output signal in a case that said first signal is lower than said predetermined threshold in the result of said first comparing and said second signal is lower than said predetermined threshold in the result of said second comparing, and

said hysteresis characteristic of said input signal is defined as same as an immediately preceding output signal in a case that said first signal is equal to or higher than said predetermined threshold in the result of said first comparing and said second signal is lower than said predetermined threshold in the result of said second comparing.

Claim 8. (Previously presented) The method according to Claim 7, wherein said hysteresis characteristic of said input signal comprises an output signal and wherein said method further comprises:

recording said output signal of said characteristic setting into a memory when said output signal is different from a previous output signal.

Claim 9. (Previously presented) The method according to Claim 7,
wherein said voltage dividing is executed by at least two resistors connected in series
with each other.

Claim 10. (Previously presented) The method according to Claim 7,
wherein said pre-processing is executed by a low-pass filter.

Claim 11. (Previously presented) A device for setting a hysteresis characteristic with
respect to an input signal, said device comprising:

a voltage divider receiving said input signal and outputting said input signal as a first
voltage and outputting a second voltage that is less than said first voltage; and

a computer that:

determines a high level exists when said first voltage and said second voltage
are both equal to or higher than a predetermined threshold,

determines a low level exists when said first voltage and said second voltage
are both lower than said predetermined threshold, and

determines a same level as a preceding determination exists when said first
voltage is equal to or higher than said predetermined threshold and said second
voltage is lower than said predetermined threshold.

Claim 12. (Previously presented) The device of claim 11, wherein said computer receives
said input signal as said first signal on a first port and receives said second voltage on a
second port.

Claim 13. (Previously presented) The device of claim 11, further comprising a filter that provides a filtered input signal as said input signal to said voltage divider.

Claim 14. (Previously presented) The device of claim 13, wherein said filter comprises a low-pass filter.

Claim 15. (Previously presented) The device of claim 11, wherein said voltage divider comprises a first resistor connected in series with a second resistor.

Claim 16. (Previously presented) The device of claim 11, wherein said computer further records an output signal based upon at least one of said determinations.

Claim 17. (Previously presented) A method for setting a hysteresis characteristic with respect to an input signal, the method comprising:

dividing said input signal, using a voltage divider circuit, into a first signal and a second signal;

determining that a high level exists when said first signal and said second signal are equal to or higher than said predetermined threshold;

determining that a low level exists when said first signal and said second signal are less than said predetermined threshold; and

determining that a same level as a preceding determination exists when said first voltage is equal to or higher than said predetermined threshold and said second voltage is lower than said predetermined threshold.

Claim 18. (Previously presented) The method of claim 17, further comprising:

comparing said first signal with a predetermined threshold; and

comparing said second signal with said predetermined threshold.

Claim 19. (Previously presented) The method of claim 17, further comprising filtering said input signal.

Claim 20. (Previously presented) The method of claim 19, wherein said filtering of said input signal occurs before said dividing of said input signal.

Claim 21. (Previously presented) The method of claim 17, further comprising recording an output signal based upon results of said determining.

Claim 22. (Previously presented) The method of claim 17, wherein said first signal and said second signal are provided, respectively, as input signals to a first port and a second port of a computer and said determining is achieved by said computer.